AMENDMENTS TO THE SPECIFICATION

Please replace paragraph [0005] beginning at page 2, line 1, with the following rewritten paragraph:

[0005] FIG. 2 shows a cross sectioned view of a flexible guidewire system with an exposed midsection with a casing in the form of a helical wire where the spacing between its distal coils is gated by a short tube and its proximal coils are attached to a coupling for connecting the casing to drive means. A pilot wire, comprising a hollow tube and ~~through which~~ an inflatable chamber at its distal end section, serves as a guidewire over which the casing can be slid and rotated.

Please replace paragraph [0007] beginning at page 2, line 9, with the following rewritten paragraph:

[0007] FIG. 4 shows an enlarged partially cross sectioned view (along line 4–4 marked on FIG. 5) of ~~the~~ a guidewire system with a midsection 32' made of a thin walled tube.

Please replace paragraph [0019] beginning at page 3, line 15, with the following rewritten paragraph:

[0019] FIG. 1 schematically shows a flexible guidewire system with an exposed midsection 10 for crossing an obstruction 12 located in a patient's coronary vessel 13 serving the heart 11. The system is introduced through the skin into the patient's arterial system 16 through a flexible sleeve 71 that isolates it from the arteries' walls and directs the system to the obstruction site. A nipple 72 is connected to the flexible sleeve through an annular chamber 73 that is attached to the proximal end of the sleeve. The chamber is equipped with a seal 74 which seals around a coupling 17 and communicates fluid entering a nipple 72 through the sleeve into the vessel. Optionally, the distal section of the sleeve is curved, as shown, to direct the system into the vessel and selectively bias it in the vessel towards the obstruction. The sleeve 71 can be inserted into the vasculature through a

standard introducer 20 (standard introducers are sold by numerous companies, e.g., TFX Medical, Jaffrey, NH, or Boston Scientific, Natick, MA or Medtronic, Minneapolis, MN).

Please replace paragraph [0022] beginning at page 5, line 6, with the following rewritten paragraph:

[0022] Preferably the proximal end 49' of the midsection 32 is a short helical coil that serves as a strain relief (to prevent the midsection 32 from being bent where it connects to the coupling 17 when the two are inadvertently misaligned) and makes it easier to connect the tubular coupling 17 to the midsection 32 by preferably a weld 49. The coupling serves to connect the casing to drive means that can advance and rotate the casing over the pilot wire in the vessel. To facilitate the linear motion and rotation, the tube 17 has a smooth outside surface 24 that allows it to slide through a seal 74 (note FIG. 1) and rotate without excessive leakage, or if an introducer is used alone without a sleeve, through a seal 75 of the introducer 2075. The drive means can simply be a user's hand. Alternatively, an optional motor 28 (shown in FIG 1 in phantom lines) can provide the rotation through its hollow output shaft 29 that is slid over and frictionally engages the coupling 17 while the linear motion is done manually by the physician hand that holds and linearly moves the motor.

Please replace paragraph [0027] beginning at page 6, line 18, with the following rewritten paragraph:

[0027] FIG. 6 shows a flexible guidewire system with an exposed midsection where the distal end of the casing is gated by closely wound coils 31 of a helical wire 30. The closely wound coils prevent the pilot wire from working its way between the coils when the helical wire is rotated. It also prevents the pilot wire from exiting the helical wire's lumen 21 (note FIG. 7) when the pilot wire is withdrawn into the helical wire and then pushed forward. In addition, the closely wound coils also make the distal portion of the casing more flexible and more radio-opaque. The midsection of the casing 32 is made of a substantially straight wire 34, that is a

continuation of the wire of which the helical wire 30 is made of, except that it includes a couple of optional coils 33 for the pilot wire to pass through in order to prevent excessive separation of the midsection from the pilot wire. The wire 34 preferably has a round cross section. The straight midsection in addition to leaving the guide wire 140 exposed provides an increased torsional rigidity (as compared to a helical wire) and thereby it reduces the angular deformation of the midsection under torque.

Please replace paragraph [0031] beginning at page 8, line 1, with the following rewritten paragraph:

[0031] FIG. 8. shows a flexible guidewire system similar to the one shown in FIG. 6 except that the wire 30 ~~35~~ has a flattened cross section and it is wound on its side, as discussed below.

Please replace paragraph [0048] beginning at page 11, line 8, with the following rewritten paragraph:

[0048] The midsection of the casing is thin and flexible, and ~~it~~ is disposed alongside the pilot wire but it does not surround the ~~it~~ pilot wire, leaving the pilot wire exposed (the term exposed ~~means~~ as used in this application means that the pilot wire is accessible, when it is out of the sleeve, to gain hold of and keep stationary while the user moves the casing over it). At the same time the thin midsection can transmit force from the coupling to the distal portion of the casing (needed to advance the casing over the pilot wire) when both the pilot wire and casing are in the sleeve as it contains the midsection's tendency to buckle under the compressive load.

Please replace paragraph [0049] beginning at page 12, line 1, with the following rewritten paragraph:

[0049] As the casing is loaded over the pilot wire, first its distal portion has to be inserted over ~~however~~ it, and since the midsection of the casing does not surround the pilot wire the coupling has to be inserted over the pilot wire separately. Obviously it would be easier for the user not to insert

the coupling over the guidewire, however it should be noted that rotating the coupling while it is disposed along side the pilot wire will cause the midsection of the casing to become twisted and tangled with the guidewire within few turns. Whereas when both the distal portion of the casing as well as the coupling are inserted over the pilot wire, they both rotate over it and allow the midsection to rotate around the pilot wire without becoming tangled with it (the above discussion use of the term "rotate over" that applies to the rotation of the distal portion and the coupling around the pilot wire and "rotate around" that applies to the midsection).